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(54) Title: DEVICE FOR TREATING BACK PAIN BY RE-ESTABLISHING THE EXCHANGE OF NUTRIENT & WASTE

(57) Abstract: The intervertebral disc is avascular. With aging, endplates become occluded by calcified layers, and diffusion of nutrients and oxygen into the disc diminishes. The disc degenerates, and pain ensues. Conduits are delivered and deployed into the intervertebral disc to reestablish the exchange of nutrients and waste between the disc and bodily circulation to stop or reverse disc degeneration and relieve pain. The intervertebral disc installed with semi-permeable conduits may be used as an immuno-isolated capsule to encapsulate donor cells capable of biosynthesizing therapeutic molecules. The semi-permeable conduits establish the exchange of nutrients and therapeutic molecules between disc and bodily circulation to treat a disease without using immunosuppressive drugs.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61B17/88

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2 586 183 A (PFC SARL ETS) 20 February 1987 (1987-02-20) cited in the application the whole document -----	1-91
A	DE 44 40 346 A (DAUM GMBH) 15 May 1996 (1996-05-15) cited in the application the whole document -----	1-91
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A	US 2001/053914 A1 (HOCHSCHULER STEPHEN H ET AL) 20 December 2001 (2001-12-20) the whole document -----	1-91

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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